REMARKS

Favorable reconsideration of this application is respectfully requested in view of the claim amendments and following remarks.

Status of Claims

Claims 1-21are currently pending in the application of which claims 1, 9 and 15 are independent. Claims 1-21 were rejected.

By virtue of the amendments above, claims 1, 9, and 15 have been amended. Support for the amendments in claims 1, 9, and 15 may be found in the specification, at least on page 14, lines 6-7 ("only the pre-defined paths").

No new matter has been introduced by way of the amendments above. Entry thereof is therefore respectfully requested.

Summary of the Office Action

Claims 1-3, 8-9, and 15-18 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bryant et al. (2005/0078656, hereinafter "Bryant") in view of Luo (6,377,551).

Claims 4-6 and 19-21 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bryant in view of Luo, and in further view of Kelsey (2005/0249215).

Claims 7 and 10-11 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bryant and Luo and in further view of Erhart (2005/0068941).

Claims 12-14 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bryant in view of Luo and Erhart, and in further view of Kelsey.

The aforementioned rejections are respectfully traversed for at least the reasons set

forth below.

Claim Rejections Under 35 U.S.C. §103(a)

The test for determining if a claim is rendered obvious by one or more references for

purposes of a rejection under 35 U.S.C. § 103 is set forth in *KSR International Co. v. Teleflex*

Inc., 550 U.S. 398, 82 USPQ2d 1385 (2007):

> "Under §103, the scope and content of the prior art are to be determined; differences
> between the prior art and the claims at issue are to be ascertained; and the level of
> ordinary skill in the pertinent art resolved. Against this background the obviousness
> or nonobviousness of the subject matter is determined. Such secondary considerations
> as commercial success, long felt but unsolved needs, failure of others, etc., might be
> utilized to give light to the circumstances surrounding the origin of the subject matter
> sought to be patented." Quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S.
> 1 (1966).

As set forth in MPEP 2143.03, to ascertain the differences between the prior art and

the claims at issue, "[a]ll claim limitations must be considered" because "all words in a claim

must be considered in judging the patentability of that claim against the prior art." *In re*

Wilson, 424 F.2d 1382, 1385. According to the Examination Guidelines for Determining

Obviousness Under 35 U.S.C. 103 in view of *KSR International Co. v. Teleflex Inc.*, Federal

Register, Vol. 72, No. 195, 57526, 57529 (October 10, 2007), once the *Graham* factual

inquiries are resolved, there must be a determination of whether the claimed invention would

have been obvious to one of ordinary skill in the art based on any one of the following proper

rationales:

> (A) Combining prior art elements according to known methods to yield predictable
> results; (B) Simple substitution of one known element for another to obtain
> predictable results; (C) Use of known technique to improve similar devices (methods,
> or products) in the same way; (D) Applying a known technique to a known device
> (method, or product) ready for improvement to yield predictable results; (E)
> ''Obvious to try''—choosing from a finite number of identified, predictable solutions,

with a reasonable expectation of success; (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007).

Furthermore, as set forth in *KSR International Co. v. Teleflex Inc.*, quoting from *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006), "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasonings with some rational underpinning to support the legal conclusion of obviousness."

Therefore, if the above-identified criteria and rationales are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s).

- **Claims 1-3, 8-9, and 15-18:**

Claims 1-3, 8-9, and 15-18 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bryant in view of Luo. This rejection is respectfully traversed for at least the following reasons.

  o Independent Claim 1:

As amended, independent claim 1 recites the following features:

(1) defining a set of paths between each pair of mesh switches, each pair comprising a source switch and a destination switch; and

(2) recalculating costs for the previously defined paths using a directed cost protocol by transmitting a directed cost packet down **only down each of the previously defined paths** from the destination switch to the source switch.

Bryant in view of Luo fails to teach or suggest at least the claimed features recited above for at least the following reasons.

1. <u>Bryant fails to teach or suggest recalculating costs by transmitting a cost packet down **only** the previously defined paths.</u>

Bryant discloses a data communications network (Fig. 1) having a plurality of interconnected nodes R1-R5 (See paragraph [0035]). Each node R1-R5 includes a routing table to determine the lowest-cost path from the respective node to a destination node (See paragraphs [0036]-[0038]). When a new node R6 is added to the network, R6 will flood the network with its link information to all nodes R1-R5 (See paragraph [0045]). In response, each node (such as R1) uses its routing table to calculate the lowest-cost path to the new node R6 (See paragraphs [0047]-[0058], especially [0053] and [0054]).

Also, each node (R1) uses its routing table to recalculate the lowest-cost paths from that node (R1) to other nodes (R2-R5) by selecting links that have the lowest cost (See Figs. 6-7 and paragraphs [0059]-[0061]). For example, in Figs. 6 and 7 of Bryant, the lowest cost from node R1 to node R5 is changed to include node R6. Note that at node R3, the path selects link Net8 to node R6, rather than link Net6 to node R5, because the cost of link Net 8 (which is 1) is less than the link Net6 (which is 4).

As such, in Bryant, during recalculation, a source node (such as R1) searches for a new lowest cost path to each destination node (R2-R5) using its routing table. Moreover, at each juncture along the way from the source node to the destination node (such as R3 in Fig. 6), the system in the source node selects a link that has the lowest cost (link Net 8 in Fig. 6 is selected because it has the lowest cost). Because the link Net 8 is a new link, the system in

Bryant transmits a packet down a new path if that path has the lowest cost. Such a new path was not previously defined. In other words, for recalculating costs, the system in Bryant does not transmit a packet down **only** the previously defined paths. As a result, Bryant fails to teach or suggest transmitting a cost packet down **only** the previously defined paths, as recited in claim 1.

2. Bryant fails to teach or suggest recalculating costs by transmitting a cost packet down **each of** the previously defined paths.

In Bryant, when there is a plurality of paths to transmit a packet from one source node (R1) to the destination node (R5), the system selects only one path having the lowest cost. For example, as discussed above, Figs. 6-7 of Bryant show that, although there are two links Net 8 and Net 6 to go from node R3 to the destination node R5, the system in Bryant selects only one link Net 8 because the link Net 8 has the lowest cost. As such, the system in Bryant fails to transmit a cost packet down **each** (i.e., all) **of the previously defined paths**, as recited in claim 1.

In the "Response to Arguments" section, the Office Action asserts that Bryant discloses transmitting a cost packet down each of the previously defined paths because Bryant discloses in paragraphs 5-6, the Link State information that node R1 in Fig. 1 receives or collects comprises a propagated LSP (link state packet) from each connecting link (111 to R2 and 112 to R3 in Fig. 1) (See *Office Action*, page 13). However, that assertion is respectfully traversed. Paragraphs 5 and 6 in Bryant disclose that each node in a network is linked to neighboring nodes and provides a cost associated with each link, so that each node can construct a link state database, such as a routing table, which is a map of the entire

network topology. Paragraph 6 further discloses that, after the database of each router node

is completed, the router will calculate the shortest path (lowest cost) to all designations. As

such, paragraphs 5 and 6 merely describe how each node in a network creates a routing table

and calculates **one path,** i.e., the lowest cost path, between a source node and a designation

node. Thus, the description in paragraphs 5 and 6 does not define a set of paths, i.e., a

plurality of paths, between a source switch and a destination switch, as recited in claim 1.

Furthermore, the description in paragraphs 5 and 6 of Bryant is related to the initial

creation of the database which is a map of the entire network topology. As such, contrary to

the assertion in the Office Action, the description in paragraphs 5 and 6 is unrelated to the

"recalculating" of the costs where the cost packet is transmitted down each of the previously

defined paths from the destination switch to the source switch, as recited in claim 1.

3. <u>Bryant fails to teach or suggest the combination of defining a set of paths between</u>
   <u>a source switch and a destination switch, then calculating start-up costs for those</u>
   <u>paths, and then recalculating the costs of those paths.</u>

In Bryant, the system determines only one path, link-by-link, to identify the lowest

cost path from the source node to the destination. Thus, Bryant discloses a method for

determining a new, lowest cost path from one node to each of other nodes in a network when

a new node enters the network. Accordingly, the system in Bryant is unrelated to the

combination of: defining a set of paths between one source node and one destination node,

then calculating the start-up costs for those <u>previously defined</u> paths, and then recalculating

costs for those <u>previously defined</u> paths, as recited in claim 1.

In the "Response to Arguments" section, the Office Action alleges "the applicants argue that Bryant fails to define a set of paths between each pair of nodes" (See *Office Action*, page 13). The Office Action further argues, paragraph 8 in Bryant suggests that a set of possible paths are provided to the source router in determining the optimal route to destination. *Id.* However, these assertions are moot because the Applicants did not argue that Bryant fails to define a set of paths. Rather, the Applicants argue that Bryant fails to teach or suggest the combination of defining a set of paths between one source switch and one destination switch, then calculating the costs for those paths, and then recalculating the costs of those paths.

Besides, paragraph 8 in Bryant describes a problem when a packet is caught in an infinite loop because the system believes the link between two nodes is the shortest route. As a result, the description in paragraph 8 of Bryant does not teach or suggest a step of "defining a set of paths" between a source switch and a destination switch, recited in claim 1.

4. <u>Bryant in view of Luo fails to teach or suggest recalculating costs using a directed cost protocol.</u>

As admitted in the Office Action, Bryant fails to teach or suggest recalculating costs using a directed cost protocol (See *Office Action*, page 3, lines 3-4). The Office Action asserts that Luo discloses in step 44 of Fig. 3 "recalculation using a directed **cost** protocol" and it would have been obvious to utilize the teaching of Luo into Bryant (See *Office Action*, page 3). However, that assertion is respectfully traversed.

First, step 44 in Fig. 3 of Luo is related to expanding a spanning tree from the source node using **only** directed links (See col. 9, lines 1-8). That means the expanding in Luo does

not use new links. In the contrary, Bryant, as discussed above, recalculates a new lowest cost path using new links that have the lowest cost, such as link Net 8 in Figs. 6-7. Therefore, the combination of Bryant and Luo would not work because the using of **only** directed links taught by Luo would not work in Bryant. As a result, it would not have been obvious to one skilled in the art to utilize Luo's disclosure into Bryant, as proposed by the Office Action.

In addition, the Office Action asserts that Luo discloses "recalculation using a directed **cost** protocol". In the previous response, the Applicants argue that there is no calculation of **costs** whatsoever in Luo. The Applicants made that argument because the Office Action insists that Luo discloses recalculating using a directed **cost** protocol. In the "Response to Arguments" section, the Office Action asserts that Bryant already describes recalculating costs, and Luo is relied upon because Luo discloses using a "directed" protocol (See *Office Action*, page 14). However, as discussed above, the combination of Bryant and Luo would not work because Bryant recalculates a new lowest path by using new links while Luo teaches using only directed (not new) links.

For at least the foregoing reasons, Luo fails to cure the deficiencies of Bryant. As a result, Bryant and Luo, taken individually or in combination, fail to teach each and every feature of independent claim 1 and thus cannot anticipate claim 1. It is therefore respectfully requested that the rejection of claim 1 be withdrawn, and claim 1 be allowed.

- Independent Claims 9 and 15:

Independent claims 9 and 15 recite features similar to the aforementioned features of claim 1. Therefore, independent claims 9 and 15 are believed to be allowable over Bryant in view of Luo for at least the same reasons set forth above with respect to independent claim 1.

It is therefore respectfully requested that the rejection of claims 9 and 15 be withdrawn and

claims 9 and 15 be allowed.

- Dependent Claims 2-3, 8, 16-18:

Because claims 2-3, 8, and 16-18 depend from either independent claims 1, 9 and 15,

they are also allowable over the cited documents of record for at least the same reasons set

forth above.

- **Claims 4-7, 10-14 and 19-21:**

Claims 4-6 and 19-21 were rejected under 35 U.S.C. §103(a) as allegedly being

unpatentable over Bryant in view of Lou and Kelsey.

Claims 7 and 10-11 were rejected under 35 U.S.C. §103(a) as allegedly being

unpatentable over Bryant in view of Lou and Erhart.

Claims 12-14 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable

over Bryant in view of Luo, Erhart and Kelsey.

The rejections above are respectfully traversed for at least the following reasons.

As discussed above, the proposed combination of Bryant and Luo fails to disclose all

of the features of independent claims 1, 9 and 15. In setting forth the rejection of claims 4-7,

10-14 and 19-21, the Office Action has not and cannot reasonably assert that the disclosures

contained in Kelsey and Erhart make up for any of the deficiencies discussed above with

respect to the proposed combination. Accordingly, the proposed modification to the

combination of Bryant and Luo utilizing the teaching of Kelsey and Erhart would still fail to

yield all of the features of independent claims 1, 9 and 15.

For at least the foregoing reasons, the Office Action has failed to establish that claims 4-7, 10-14 and 19-21 are *prima facie* obvious in view of the combined disclosures contained in Bryant, Luo, Kelsey and/or Erhart as proposed in the Office Action. The Examiner is therefore respectfully requested to withdraw the rejection of claims 4-7, 10-14 and 19-21 and to allow these claims.

Conclusion

In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited. Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below. Please grant any required extensions of time and charge any fees due in connection with this request to Deposit Account No. 08-2025.

Respectfully submitted,

Dated: December 10, 2009   By   /Ashok K. Mannava/

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